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| 10/662,407 | 09/16/2003 | Jan-Erik Ekberg | 4208-4114US1 | 9670 |
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| MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101 | | | EXAMINER HO, HUY C | |
| | | | ART UNIT | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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|------------------------------|-------------------------------|-------------------------------|--|
| Office Action Summary | Application No. 10/662,407 | Applicant(s) EKBERG ET AL. | |
| | Examiner Huy C. Ho | Art Unit 2617 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09/16/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 09/04/2007, with respect to the rejection(s) of claim(s) 1-53 under Arora (2004/0064568) and Atkinson et al. (2002/0012329) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kammer et al. (ISBN: 1-928994-42-3, "Bluetooth Application Developer's Guide", submitted in the Information Disclosure Statement provided in the application), Beck et al. (6,604,140) and Howe (2005/0058149).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. **Claims 1-5, 11-14, 16-23, 29-32 and 34-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kammer et al. (ISBN: 1-928994-42-3, "Bluetooth Application Developer's Guide") and further in view of Beck et al. (6,604,140).**

Consider claim 1, (Previously presented) Kammer discloses a system for performing device detection and service discovery in a mobile ad hoc communications network (see page 20 lines 7-end of page, page 24 lines 20-end of page), comprising:

a memory device (page 20, figure 1.6); and

a processor disposed in communication with the memory device (page 20, figure 1.6), the processor configured to:

conducting an inquiry of the ad-hoc communications network to discover at least one nearby device, the inquiry including an indication that said at least one nearby device may include a layer, said layer being software for providing application and service discovery (see page 20 lines 7-end of page, page 24 lines 20-end of page, page 41 whole page, page 42 whole page);

when the inquiry includes the indication that said at least one nearby device may include the layer:

creating a connection to said at least one nearby device (page 21, whole page);

confirming whether said at least one nearby device includes the layer (page 24 lines 20-end of page);

when the peer device includes the layer:

execute the layer to perform application and service discovery (page 24 lines 20-end of page);

Kammer does not show middleware. Beck discloses middleware (see the abstract, col 2 lines 45-55).

Since both Kammer and Beck teach ad hoc and Bluetooth application for device detection and service discovery, it would have been obvious to a person of ordinary skill in the art at the time of the

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invention was made to modify teachings Kammer, and have middleware, taught by Beck to improve the method and system for devices to discover and user services, as discussed by Beck (see (col 1 lines 9-67, col 2 lines 1-45).

Consider claim 19, (Currently Amended) Kammer discloses a method for performing device detection and service discovery in a mobile ad hoc communications network (see page 20 lines 7-end of page, page 24 lines 20-end of page), comprising:

conducting an inquiry of the ad-hoc communications network to discover at least one nearby device, the inquiry including an indication that said at least one nearby device may include a layer, said layer being middleware software for providing application and service discovery in an ad hoc network (see page 20 lines 7-end of page, page 24 lines 20-end of page, page 41 whole page, page 42 whole page);

when the inquiry includes the indication that said at least one nearby device may include the layer:

creating a connection to said at least one nearby device (page 21, whole page);

confirming whether said at least one nearby device includes the layer (page 24 lines 20-end of page);

when the peer device includes the layer:

execute the layer to perform application and service discovery (page 24 lines 20-end of page);

Kammer does not show middleware. Beck discloses middleware (see the abstract, col 2 lines 45-55).

Since both Kammer and Beck teach ad hoc and Bluetooth application for device detection and service discovery, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings Kammer, and have middleware, taught by Beck to improve the method and system for devices to discover and user services, as discussed by Beck (see (col 1 lines 9-67, col 2 lines 1-45).

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Consider claim 37, (Previously presented) Kammer discloses a computer program product for performing device detection and service discovery in a mobile ad hoc communications network comprising:

a computer readable medium storing:

program code for conducting an inquiry of the mobile ad hoc communications network to discover at least one nearby device, the inquiry including an indication that said at least one nearby device may include a layer, said layer being soft-ware for providing application and service discovery (see page 20 lines 7-end of page, page 22 lines 18-28, page 24 lines 20-end of page, page 41 whole page, page 42 whole page);

program code for creating a connection to said at least one nearby device when the inquiry includes the indication that said at least one nearby device may include the layer (page 21, whole page);

program code for confirming whether said at least one nearby device includes the layer when the inquiry includes the indication that said at least one nearby device may include the layer (page 24 lines 20-end of page); and

program code for executing the layer to perform application and service discovery when said at least one nearby device includes the layer (page 24 lines 20-end of page);

Kammer does not show middleware. Beck discloses middleware (see the abstract, col 2 lines 45-55).

Since both Kammer and Beck teach ad hoc and Bluetooth application for device detection and service discovery, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings Kammer, and have middleware, taught by Beck to improve the method and system for devices to discover and user services, as discussed by Beck (see col 1 lines 9-67, col 2 lines 1-45).

Consider claim 45, (Previously presented) Kammer discloses a system for performing device detection and service discovery in a mobile ad hoc communications network (see page 20 lines 7-end of page, page 24 lines 20-end of page), comprising:

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means for conducting an inquiry of the mobile ad hoc communications network to discover at least one nearby device, the inquiry including an indication that said at least one nearby device may include a layer, said layer being software for providing application and service discovery (see page 20 lines 7-end of page, page 22 lines 18-28, page 24 lines 20-end of page, page 41 whole page, page 42 whole page);

means for creating a connection to said at least one nearby device when the inquiry includes the indication that said at least one nearby device may include the layer (page 21, whole page);

means for confirming that said at least one nearby device includes the layer when the inquiry includes the indication that said at least one nearby device may include the layer (page 24 lines 20-end of page); and

means for executing the layer to perform application and service discovery when said at least one nearby device includes the layer (page 24 lines 20-end of page);

Kammer does not show middleware. Beck discloses middleware (see the abstract, col 2 lines 45-55).

Since both Kammer and Beck teach ad hoc and Bluetooth application for device detection and service discovery, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings Kammer, and have middleware, taught by Beck to improve the method and system for devices to discover and user services, as discussed by Beck (see col 1 lines 9-67, col 2 lines 1-45).

Consider claim 53, (Currently Amended) Kammer discloses a wireless device in a mobile ad hoc communications network (page 20, figure 1.6), comprising:

wireless short range transceiver (page 10 whole page);

a memory device (page 20, figure 1.6);; and

a processor disposed in communication with the memory device (page 20, figure 1.6), the processor configured to:

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transmit with the transceiver an inquiry of the mobile ad hoc communications network to discover at least one nearby device (see page 20 lines 7-end of page, page 24 lines 20-end of page, page 41 whole page, page 42 whole page);

receive with the transceiver a response to the inquiry, including an indication that said at least one nearby device may include a layer, said middleware layer being software for providing application and service discovery (see page 20 lines 7-end of page, page 22 lines 18-28, page 24 lines 20-end of page, page 41 whole page, page 42 whole page);

when the inquiry includes the indication that said at least one nearby device may include the layer:

create with the transceiver a connection to said at least one nearby device (page 21, whole page);

confirm whether said at least one nearby device includes the layer (page 24 lines 20-end of page);

when said at least one nearby device includes the layer:

execute the layer to perform application and service discovery (page 24 lines 20-end of page);

Kammer does not show middleware. Beck discloses middleware (see the abstract, col 2 lines 45-55).

Since both Kammer and Beck teach ad hoc and Bluetooth application for device detection and service discovery, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings Kammer, and have middleware, taught by Beck to improve the method and system for devices to discover and user services, as discussed by Beck (see col 1 lines 9-67, col 2 lines 1-45).

Consider claims 2, 20, 38, 46, (Original) The system of claims 1, 19, 37, 45 Kammer as modified by Beck, discloses wherein the middleware layer includes a service discovery protocol and at least one computer program, each computer program comprising at least one sequence of operational instructions (col 8 lines 57-67, col 9 lines 1-10).

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Consider claims 3, 21, 39, 47 (Original) The system of claims 1, 19, 37, 45 Kammer as modified by Beck, discloses wherein when said at least one nearby device includes the middleware layer, the processor is further configured to:

execute the middleware layer to launch applications and services (col 2 lines 50-55).

Consider claims 5, 23 (Original) The system of claims 4, 22, Kammer as modified by Beck, further discloses wherein the inquiry request message is a Bluetooth inquiry command, and the inquiry response message is a Bluetooth inquiry result command (page 20, figure 1.6).

Consider claims 4, 22, 40, 48, (Original) The system of claims 1, 19, 37, 45 Kammer as modified by Beck, further discloses wherein to conduct the inquiry, the processor is further configured to:

send an inquiry request message to a coverage area within the mobile ad hoc communications network (see page 20 lines 7-end of page, page 24 lines 20-end of page, page 41 whole page, page 42 whole page); and

receive an inquiry response message from said at least one nearby device, the inquiry response message including the indication (see page 20 lines 7-end of page, page 24 lines 20-end of page, page 41 whole page, page 42 whole page);

Consider claims 11, 29, 41, 49 (Original) The system of claims 1, 19, 37, 45 Kammer as modified by Beck, further discloses wherein to create the connection, the processor is further configured to:

send a paging request message to a coverage area within the mobile ad hoc communications network directed to said at least one nearby device (page 21 lines 25-30); and

receive a paging accept message from said at least one nearby device (page 21 lines 25-30);

Consider claims 12, 30, 42, 50 (Original) The system of claims 1, 19, 37, 45, Kammer as modified by Beck, further discloses wherein to confirm that said at least one nearby device includes the middleware layer, the processor is further configured to:

send a recognition request message to said at least one nearby device (page 24 lines 18-35);
and

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receive a recognition response message from said at least one nearby device (page 24 lines 18-35).

Consider claims 13, 31, (Original) The system of claims 12, 30 Kammer as modified by Beck, further discloses wherein receipt of the recognition response message confirms that said at least one nearby device includes the middleware layer (page 24 lines 18-35, page 41 whole page).

Consider claims 14, 32 (Original) The system of claims 12, 30 Kammer as modified by Beck, further discloses wherein the recognition response message includes a confirmation that said at least one nearby device includes the middleware layer (page 24 lines 18-35, page 41 whole page).

Consider claims 16, 34 (Original) The system of claims 12, 30, 37, Kammer as modified by Beck, further discloses wherein the recognition request message is a Bluetooth Service Discovery Protocol request and the recognition response message is a Bluetooth Service Discovery Protocol response (page 24 lines 18-35, page 41 whole page).

Consider claims 17, 35, 43, 51 (Original) The system of claims 1, 19, 37, 45, Kammer as modified by Beck, discloses wherein to execute the middleware layer to perform application and service discovery, the processor is further configured to:

receive a notification message from said at least one nearby device, the notification message including a local application directory stored in said at least one nearby device (col 2 lines 4-5, 57-63);

store an update to a combined application directory, the update based on a comparison of the local application directory and the combined application directory (col 7 lines 12-25, col 8 lines 25-27);

send an update message to said at least one nearby device, the update message including an update portion of the combined application directory for updating the local application directory stored in said at least one nearby device (col 6 lines 45-67, col 7 lines 12-25, col 8 lines 25-27).

Consider claims 18, 36, 44, 52 (Original) The system of claims 17, 35, 43, 51 Kammer as modified by Beck, discloses wherein the processor is further configured to:

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launch a local application based on a reference in the combined application directory (col 6 lines 45-67); and

connect the local application to a counterpart application executing on said at least one nearby device (col 6 lines 45-67);

6. Claims 6-10, 15, 24-28 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kammer et al. (ISBN: 1-928994-42-3, "Bluetooth Application Developer's Guide") in view of Beck et al. (6,604,140) and further in view of Howe (2005/0058149).

Consider claims 6, 24 (Original) The system of claims 5, 23 Kammer as modified by Beck, further discloses wherein setting the Bluetooth inquiry result command to at least one predetermined value is the indication (see page 20 lines 7-end of page, page 24 lines 20-end of page, page 41 whole page, page 42 whole page);

Kammer as modified by Beck does not show bit indication. Howe discloses bit indication (see sections [370]-[374]).

Since both Kammer, Beck and Howe teach ad hoc communication network, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings Kammer, and Beck, and have bit indication, taught by Howe to improve the method and system for packet data transmission network, as discussed by Howe (see sections [5]-[35]).

Consider claim 7, 25 (Original) The system of claim 6, 24 Kammer as modified by Beck, and further in view of Howe discloses wherein said at least one bit includes at least one of the ad hoc networking aware bit, the location information bit, or the telephony capable bit (see sections [370]-[374]).

Consider claims 8, 26 (Original) The system of claims 5, 23 Kammer as modified by Beck, further discloses wherein setting in the Bluetooth inquiry result command to at least one predetermined value is the indication (see page 20 lines 7-end of page, page 24 lines 20-end of page, page 41 whole page, page 42 whole page).

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Kammer as modified by Beck does not show bit indication. Howe discloses bit indication (see sections [370]-[374]).

Since both Kammer, Beck and Howe teach ad hoc communication network, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings Kammer, and Beck, and have bit indication, taught by Howe to improve the method and system for packet data transmission network, as discussed by Howe (see sections [5]-[35]).

Consider claims 9, 27 (Original) The system of claims 8, 26 Kammer as modified by Beck, and further in view of Howe discloses wherein said at least two bits includes at least two of the ad hoc networking aware bit, the location information bit, or the telephony capable bit (see sections [5]-[35]).

Consider claims 10, 28 (Original) The system of claims 8, 26 Kammer as modified by Beck, and further in view of Howe discloses wherein said at least two bits includes the ad hoc networking aware bit, and at least one of the location information bit, or the telephony capable bit (see sections [5]-[35]).

Consider claims 15, 33 (Original) The system of claims 14, 32, Kammer as modified by Beck, further discloses wherein setting in the recognition response message to at least one predetermined value is the confirmation (see page 20 lines 7-end of page, page 24 lines 20-end of page, page 41 whole page, page 42 whole page).

Kammer as modified by Beck does not show bit indication. Howe discloses bit indication (see sections [370]-[374]).

Since both Kammer, Beck and Howe teach ad hoc communication network, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings Kammer, and Beck, and have bit indication, taught by Howe to improve the method and system for packet data transmission network, as discussed by Howe (see sections [5]-[35]).


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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy C. Ho whose telephone number is (571) 270-1108. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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